

REMARKS

Claims 1-3, 6-12, 15, 18 and 19 are pending in the present application. Reconsideration in view of the following remarks is requested.

Allowable Subject Matter

The Examiner has indicated that claim 15 contains allowable subject matter, particularly an input device that is configured as a touch screen. Although Applicant agrees that claim 15 contains allowable subject matter, Applicant submits that each of claims 1-3, 6-12, 15, 18 and 19, in their present form, are already allowable over the art of record, for the numerous reasons set forth below.

Claim Rejections-35 U.S.C. § 102

Claims 10-12, 18 and 19 stand rejected under 35 U.S.C. § 102(a) as allegedly being anticipated by Yao, et al. (U.S. Patent No. 6,097,176), hereinafter "Yao". This rejection is respectfully traversed.

Applicant respectfully submits that Yao fails to teach or suggest a battery management system for managing a battery pack of an electric or hybrid vehicle, the battery pack including a plurality of batteries, comprising, at least, one or more of:

- (1) a first interface component,
- (2) a second interface component,
- (4) a circuit measuring the first parameter of one of the batteries in the battery pack,
- (4) a processor, the processor determining an average of first parameter values of the remaining batteries in the battery pack, the average first parameter value for remaining batteries changing depending on which battery of the battery pack is being tested at a given instant, the processor comparing the measured first parameter value received from the circuit to the average to obtain a result
- (5) an output device that signals an operator if the result is outside a given range; or
- (6) a memory storing the result,

as recited in claim 10 in the present application. Accordingly, the Examiner has not made a proper rejection under 35 U.S.C. § 102 because Yao does not teach all of the features recited in the claim. In fact, Applicant submits that Yao does not appear to teach any one feature in claim 10.

Yao is directed to a method for managing a back-up power source that uses a nickel-metal hydride storage battery. The method is directed to performing the following steps during an intermittent charge of the nickel-metal hydride storage battery:

- a. recording an average temperature for the nickel-metal hydride storage battery during a given period;
- b. calculating a self-discharge quantity of the nickel-metal hydride storage battery during an idle period of the charge based on the average temperature during idling; and
- c. controlling the charging of the nickel-metal hydride storage battery based on the calculated self discharge quantities.

Referring to each of the examples (beginning at Col. 7) to Col. 10 of Yao, one apparent measurement in Yao is an average temperature measurement of the battery, see Example 6, Col. 10, lines 12-16. At best, the only other measured parameter appears to be that of battery voltage value, which is described in several of the examples in Yao.

Characteristic diagrams are not first and second interface components

The Examiner has failed to identify the first interface component as recited in claim 10, as the Examiner merely and broadly relies on Figs. 1-3 and Col. 2, line 45 to Col. 3, line 65. Applicant notes that Figs. 1-3 describe characteristic diagrams showing changes in battery discharge capacities, not a first interface component. The columns relied on by the Examiner, (Cols. 2 and 3) essentially recite the claims of Yao and do not specify, whatsoever, the use of a first interface component (or a second interface component for that matter) as recited in independent claim 10. For at least this reason, the rejection fails.

Examiner has not identified the circuit in claim 10 in Yao

Claim 10 also recites a circuit measuring the first parameter in the battery pack. Such a circuit is not disclosed nor taught anywhere in Yao. The Examiner does not even address the circuit feature in independent claim 10. To the aspect of measuring, the Examiner relies on Figs. 1-3, as well as Cols. 3-5 and Col. 11, lines 21-30. It is unclear what relevance these columns have to the features recited in the claims; however Applicant attempts to respond with a summary of the relied upon passages.

Characteristic Diagrams are not a Processor

The Examiner points to FIGS. 8-13 for an alleged teaching of a processor in electrical communication with a second interface component. However, these figures are directed to characteristic diagrams describing relationships between discharge capacities and self-discharge quantities, or changes in battery discharge capacities, or voltage behavior and temperature behavior during charging. FIGS. 8-13 have nothing to do with the recited processor nor second interface component, or interrelationships there between.

Regarding the passages relied on by the Examiner bridging Cols. 3 and 4, it is unclear where these columns teach of (a) a processor determining an average of the first parameter values of remaining batteries, where the average first parameter changes depending on which battery of the pack is being tested; and/or (b) the processor comparing the measured first parameter value to the average to obtain results.

Applicant submits that the only type of comparison described in Yao is some comparison of a self discharge quantity to a predetermined value which controls whether or not charging is restored (see, for example, claim 1 of Yao and also the Examples of Cols. 7-10, where the predetermined value is reached when a voltage for one cell drops to one volt for every six months). Applicant submits that this comparison in Yao is not even remotely related to comparing an average value to a measured value, where the average value changes depending on which battery is being measured, as recited in claim 10. For these additional reasons, the rejection fails.

No Output Device or Memory Disclosed in Yao

Yao also fails to teach or suggest an output device signaling an operator when, the result is outside a given range. The Examiner relies on Figs. 7 and 8 and Col. 2, line 45 to Col. 3, line 65 (used to reject several of the other features). Yet, an output device signaling an operator is not shown anywhere in the recited passages. Yao is directed to a method, and does not disclose any battery management system structure, whatsoever. Applicant submits that the rejection is deficient because the output device is not taught by Yao. The same reasoning may be applied to the memory storing the result, recited in claim 10, completely absent in Yao.

Dependent claims 11, 12, 18 and 19 Distinguish over Yao

Regarding dependent claims 11 and 12, the Examiner alleges that Yao discloses that the first parameter is battery conductive or impedance (Yao Col. 4, lines 30-35). This passage recites the following:

Since the charging current of a battery depends on the internal resistance of the battery and the charging current, it is possible to determine the degree and deterioration of the battery, irrespective of the value of the charging current, according to this method.

Applicant submits that this passage relates to determining a degree of battery deterioration, but has nothing to do with regard to a first parameter being either battery conductance or impedance. In fact, the terms conductance and impedance are not recited anywhere in the disclosure of Yao. For at least this additional reason, claims 11 and 12 are allowable.

Regarding claims 18 and 19, the Examiner relies on Col. 2, lines 13-25 (which allegedly discloses a battery management system which works in network communication with a computer.) Although this passage describes a battery management unit used in conjunction with some type of computer, this is related to a prior art embodiment and not to the method for managing backup power sources in Yao. Moreover, the passage does not explicitly describe or suggest a battery management system that is selectively in communication with a computer unit or network only that some type of battery unit is used as a backup source for computers and telecommunication systems.

As a general comment, Applicant submits that Yao does not appear relevant to any one feature recited in claim 10, as evident from the discussion above. Accordingly, the Examiner is kindly requested to point out what relevance, if at all, Yao has to the invention as recited in each of the features of claim 10. Therefore, withdrawal of the rejections and allowance of each of claims 10-12, 18 and 19 is kindly requested.

Claim Rejections under 35 U.S.C. § 103

Claims 1-3 and 6-9 are rejected under 35 U.S.C. § 103(a) as allegedly being unpatentable over Yao, et al. in view of Bullock, et al. (U.S. Patent No. 5,623,195), hereafter "Bullock". This rejection is respectfully traversed.

Improper 103 Rejection

Initially, Applicant submits that this rejection is improper, in that it does not appear where Bullock is relevant to independent claim 1. In other words, it appears that the Examiner rejects claim 1 alone over Yao, and then cites Bullock only for some dependent claim features. Accordingly, the Examiner is requested to identify the rejection over claim 1 as a 102(a) rejection over Yao alone, or as obvious over Yao alone or in combination with another reference, or to withdraw the rejection altogether. For at least this reason, the rejection is improper.

Bullock does not teach each of the features missing in Yao

Notwithstanding the above, Applicant submits that claim 1 is allowable for the numerous reasons set forth above regarding claim 10. Claim 1 recites a methodology used to test a battery pack, somewhat similar to the features recited in claim 10. Applicant submits that Yao is woefully short in teaching each and every one of the recited features in independent claim 1, as specifically addressed above, that it is unclear how Bullock could even be considered as combinable with Yao. In any case, Bullock is limited to an alleged teaching of audible signals, and was cited by the Examiner only for this teaching.. Accordingly, claims 1-3 and 6-9 are allowable at least for the reasons set forth above, in that Yao, either alone or in combination with Bullock, fail to teach or suggest any of the features recited in independent claim 1.

Conclusion

In view of the above amendments and remarks, reconsideration of the rejections and allowance of each of claims 1-3, 6-12, 15, 18 and 19 in connection with the present application is earnestly solicited.

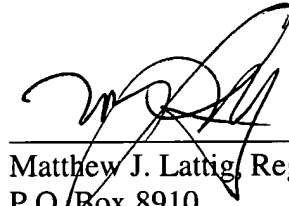
Should there be any outstanding matters that need to be resolved in the present application, the Examiner is respectfully requested to contact Matthew J. Lattig, Reg. No. 45,274 at the telephone number of the undersigned below.

If necessary, the Commissioner is hereby authorized in this, concurrent, and future replies, to charge payment or credit any overpayment to Deposit Account No. 08-0750 for any additional fees required under 37 C.F.R. § 1.16 or under 37 C.F.R. § 1.17; particularly, extension of time fees.

Respectfully Submitted,

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By



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